

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,632	12/11/2000	Werner Blatz	4045	5488

21553 7590 03/02/2004

FASSE PATENT ATTORNEYS, P.A.
P.O. BOX 726
HAMPDEN, ME 04444-0726

EXAMINER

PERILLA, JASON M

ART UNIT	PAPER NUMBER
2634	7

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,632

Applicant(s)

BLATZ ET AL.

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5-3/01 6-12/00</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending in the instant application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on January 23, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.
4. The information disclosure statement (IDS) submitted on March 9, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

5. The figure is objected to because it is referenced by "figure 1" in the specification, but it is labeled only "figure". The drawing sheet should be correctly labeled as --figure 1--.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally ***limited to a single paragraph*** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the use of the term "preferably" renders the claim indefinite. One is unable to determine a definite amount of time that the comparison will take because the term preferably does not necessitate a time period within 300ms maximum.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Loeffler et al (5838074).

Regarding claim 1, Loeffler et al disclose a procedure to increase the manipulation security of a bi-directional contact-less data transmission (abstract) by means of a first transmission and receiver unit (fig. 1a) and a second transmission and

receiver unit (fig. 1b) wherein the second transmission and receiver unit, on receipt of a transmitted electromagnetic signal from the first transmission and receiver unit, will convert this signal relative to at least one selected physical quantity or predefined algorithm into a response signal and re-transmit the same to the first transmission and receiver unit (fig.1; col. 3, lines 27-35), and on receipt of the response signal, the first transmission and receiver unit will convert this response signal with regard to the selected physical quantity into a test signal such that this will compensate the conversion effected in the second transmission and receiver unit (fig. 1; col. 3, lines 35-38), and finally, in the first transmission and receiver unit a comparison between the test signal and the transmitted electromagnetic signal is effected (fig. 1; col. 3, lines 38-43) , and as a result of this comparison a value is assigned to a manipulation indication (col. 3, line 42). The result of the comparison is utilized to control an automobile immobilizer and it is a manipulation indication of the comparison.

Regarding claim 2, Loeffler et al discloses the limitations of claim 1 as applied above. Further, it is inherent that the comparison of whether there is a relationship between the physical quantity or algorithm is completed within a time period t .

Regarding claim 3, Loeffler et al discloses the limitations of claim 1 as applied above. Further, Loeffler et al discloses that if the result of the comparison is below a selected limit value or found to be not matching, the manipulation indication is assigned the value 0 or false (unmatched condition) (col. 3, lines 35-45).

Regarding claim 6, Loeffler et al discloses the limitations of claim 1 as applied above. Further, Loeffler et al discloses that data information is modulated onto the

electromagnetic signal by means of frequency or amplitude modulation (col. 2, lines 5-13).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5, 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loeffler et al in view of Cole et al (4364043).

Regarding claim 5, Loeffler et al discloses the limitations of claim 1 as applied above. Loeffler et al does not disclose that as a quantity for comparison the phase, amplitude, or frequency of the test signal is used. However, Cole et al teaches in a transponder identification system (abstract) that the frequency used by the base unit and the frequency used by the transponder unit should advantageously be different for good separation of the two signals (col. 4, lines 39-54). Cole et al teaches that by the separation of the frequencies between the interrogator unit and the transponder unit the strong interrogation signal does not interfere with the weak signal from the transponder unit. As one skilled in the art takes into consideration the procedure for secure communications of Loeffler et al in view of the teachings of Cole et al, it is obvious to utilize the frequency of the transmitted electromagnetic signal as a selected physical quantity to perform a predetermined algorithm on in the transponder unit for transmission to the interrogator unit so that a comparison could be made to authenticate

the transponder unit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the frequency of the transmitted electromagnetic signal as taught by Cole et al from the first transmission and receiver unit as a selected physical quantity to perform an algorithm upon in the second transmission and receiver unit for transmission back to the first transmission and receiver unit for the authentication procedure of Loeffler et al because the return of a frequency from the second transmission and receiver unit substantially removed from the frequency of the first transmission and receiver unit will ensure that the weak return frequency will be received as taught by Cole et al.

Regarding claim 7, Loeffler et al discloses the limitations of claim 1 as applied above. Loeffler et al does not disclose that as a quantity for comparison the phase, amplitude, or frequency of the test signal is used. However, Cole et al teaches in a transponder identification system (abstract) that the frequency used by the base unit and the frequency used by the transponder unit should advantageously be different for good separation of the two signals (col. 4, lines 39-54). Cole et al teaches that by the separation of the frequencies between the interrogator unit and the transponder unit the strong interrogation signal does not interfere with the weak signal from the transponder unit. As one skilled in the art takes into consideration the procedure for secure communications of Loeffler et al in view of the teachings of Cole et al, it is obvious to utilize the frequency of the transmitted electromagnetic signal as a selected physical quantity to perform a predetermined algorithm on in the transponder unit for transmission to the interrogator unit so that a comparison could be made to authenticate

the transponder unit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the frequency of the transmitted electromagnetic signal as taught by Cole et al from the first transmission and receiver unit as a selected physical quantity to perform an algorithm upon in the second transmission and receiver unit for transmission back to the first transmission and receiver unit for the authentication procedure of Loeffler et al because the return of a frequency from the second transmission and receiver unit substantially removed from the frequency of the first transmission and receiver unit will ensure that the weak return frequency will be received as taught by Cole et al.

Regarding claim 8 Loeffler et al discloses the limitations of claim 1 as applied above. Loeffler et al does not disclose that as a quantity for comparison the phase, amplitude, or frequency of the test signal is used. However, Cole et al teaches in a transponder identification system (abstract) that the frequency used by the base unit and the frequency used by the transponder unit should advantageously be different for good separation of the two signals (col. 4, lines 39-54). Cole et al teaches that by the separation of the frequencies between the interrogator unit and the transponder unit the strong interrogation signal does not interfere with the weak signal from the transponder unit. As one skilled in the art takes into consideration the procedure for secure communications of Loeffler et al in view of the teachings of Cole et al, it is obvious to utilize the frequency of the transmitted electromagnetic signal as a selected physical quantity to perform a predetermined algorithm on in the transponder unit for transmission to the interrogator unit so that a comparison could be made to authenticate

the transponder unit. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to utilize the frequency of the transmitted electromagnetic signal as taught by Cole et al from the first transmission and receiver unit as a selected physical quantity to perform an algorithm upon in the second transmission and receiver unit for transmission back to the first transmission and receiver unit for the authentication procedure of Loeffler et al because the return of a frequency from the second transmission and receiver unit substantially removed from the frequency of the first transmission and receiver unit will ensure that the weak return frequency will be received as taught by Cole et al.

Further regarding claim 8, Loeffler et al discloses that a predefined algorithm or computation formula (col. 3, lines 24-27) is utilized to effect a random number (or the transmission frequency in view of Cole et al) so that the algorithm could be verified on the side of the original transmission for authentication (col. 3, lines 35-44). While claim 8 provides the limitation that the algorithm is multiplication by a number, no limitation in the claim or disclosure in the specification asserts that such a technique entails a novel approach or an advantageous algorithm. Therefore, the type of algorithm used as a key for authentication is considered a matter of design choice, and it is obvious that if multiplication by a number is chosen as an algorithm on the side of the second transmission and receiver unit that the inverse (division by a number) could be performed on the side of the originating first transmission and receiver unit for comparison and authentication.

Regarding claim 9, Loeffler et al in view of Cole et al disclose the limitations of claim 8 as applied above. Further, it is inherent that any number chosen for multiplication and division could be effected as being represented by a ratio of two natural numbers.

Regarding claim 10, Loeffler et al in view of Cole et al discloses the limitations of claim 7 as applied above. Further, Loeffler et al discloses that if the result of the comparison is below a selected limit value or found to be not matching, the manipulation indication is assigned the value 0 or false (unmatched condition) (col. 3, lines 35-45).

Regarding claim 11, Loeffler et al in view of Cole et al discloses the limitations of claim 8 as applied above. Further, Loeffler et al discloses that if the result of the comparison is below a selected limit value or found to be not matching, the manipulation indication is assigned the value 0 or false (unmatched condition) (col. 3, lines 35-45).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art not relied upon above is cited to further show the state of the art with respect to authentication of transponder systems.

U.S. Pat. No. 5862225 to Feldman et al; Keyless synchronization.

U.S. Pat. No. 5723911 to Glehr; Keyless access control.

U.S. Pat. No. 4229741 to Groth, Jr.; Frequency synchronization.

U.S. Pat. No. 5193114 to Mossley; Smart card authentication.

U.S. Pat. No. 4630044 to Plozer; Programmable transponder.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jm Perilla

Jason M Perilla
February 10, 2004

jmp


STEPHEN CHIN
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2600